(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



THE RESIDENCE OF THE PROPERTY OF THE PROPERTY

(43) International Publication Date 6 May 2004 (06.05.2004)

PCT

(10) International Publication Number WO 2004/038938 A1

(51) International Patent Classification7:

H04B 1/173

(21) International Application Number:

PCT/IB2003/004521

- (22) International Filing Date: 14 October 2003 (14.10.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0224753.4

24 October 2002 (24.10.2002) Gi

- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): FULTON, Paul, M. [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB). OZERIN, Izaskun [ES/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB). DOOLEY, Saul, R. [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).

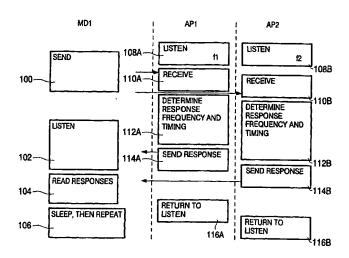
- (74) Agent: WHITE, Andrew; Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

 as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,

[Continued on next page]

(54) Title: BEACON CHANNEL FOR FREQUENCY HOPPING WIRELESS DEVICES



(57) Abstract: A mobile device for communicating with other devices using a frequency hopping wireless interface such as blue-tooth, sends a sequence of messages each on a different frequency, for finding other devices within range, and listens for a response during a subsequent response window, on one or more response frequencies. It receives information such as location information from the other devices without needing to set up a frequency hopping connection. The response window is long enough to receive more than one response. The overall time for short transactions such as a single request and response for device discovery, can be kept short. This in turn leads to low power consumption by mobile devices and low chance of interference between devices. An interval between sequences of the messages can be increased, thus lowering the total amount of packets broadcast.

